

WHAT IS CLAIMED IS:

1. A method of compressing motion image information, comprising the steps of: comparing pixels in a frame with  
5 corresponding pixels in a spatially or temporally adjacent frame and generating differential information in accordance with the comparison result; generating and storing a 1-bit bit map indicating whether said differential information is greater or not greater than a given parameter; and compressing  
10 information of a pixel indicated as being greater than said parameter thereby reducing redundant information between frames;

wherein an image in each frame is divided into blocks in advance, and each of all blocks is approximated by (replaced  
15 with) a single plane defined by three data representing the magnitude of a pixel value in the block, the block-to-block gradient of the pixel value in an x direction, and the block-to-block gradient of the pixel value in a y direction.

20 2. A method of compressing motion image information, comprising the steps of: comparing pixels in a frame with corresponding pixels in a spatially or temporally adjacent frame and generating differential information in accordance with the comparison result; generating and storing a 1-bit bit  
25 map indicating whether said differential information is greater or not greater than a given parameter; treating (deleting)

information of a pixel, indicated as being not greater than said parameter, as a pixel having no difference between frames; and compressing information of a pixel indicated as being greater than said parameter; wherein

5        an image in each frame is divided into blocks in advance, and each of all blocks is approximated by (replaced with) a single plane defined by three data representing the magnitude of a pixel value in the block, the block-to-block gradient of the pixel value in an x direction, and the block-to-block gradient of the pixel value in a y direction.

3. A method of compressing motion image information, by means of comparing spatially or temporally adjacent pixels to each other and generating differential information so as to reduce redundant information between frames, said method including the steps of: comparing corresponding pixels to each other between said frames and generating and storing a 1-bit bit map indicating whether the absolute value of the difference thereof is greater or not greater than a given parameter; and  
15        compressing information of a pixel indicated as being greater than said parameter so as to reduce redundant information between said frames; wherein

20        an image in each frame is divided into blocks in advance, and each of all blocks is approximated by (replaced with) a single plane defined by three data representing the magnitude of a pixel value in the block, the block-to-block gradient of

the pixel value in an x direction, and the block-to-block gradient of the pixel value in a y direction.

4. A method of compressing motion image information, by means of comparing spatially or temporally adjacent pixels to each other and generating differential information so as to reduce redundant information between frames, said method including the steps of: comparing corresponding pixels to each other between said frames and generating and storing a 1-bit bit map indicating whether the absolute value of the difference thereof is greater or not greater than a given parameter; treating (deleting) information of a pixel, indicated as being not greater than said parameter, as a pixel having no difference between frames; and compressing information of a pixel indicated as being greater than said parameter; wherein

an image in each frame is divided into blocks in advance, and each of all blocks is approximated by (replaced with) a single plane defined by three data representing the magnitude of a pixel value in the block, the block-to-block gradient of the pixel value in an x direction, and the block-to-block gradient of the pixel value in a y direction.

5. A method of compressing motion image information, according to one of Claims 1 to 4, wherein the 1-bit bit map information stored in said bit map is compressed by means of a binary image coding method such as a run length, modified READ

(MR, MMR), modified Huffman (MH), or JBIG coding method.

6. A method of compressing motion image information, according to one of Claims 1 to 4, wherein information which is indicated as being greater than said parameter is compressed by means of an adaptive Huffman coding process including as many Huffman tables as the amount of predicted information.

7. A system for compressing motion image information, including entropy coding circuit for reducing redundant information between frames by means of comparing spatially or temporally adjacent pixels to each other and generating differential information, said system comprises bit map information storage circuit that compares pixels  $t$  and corresponding pixels  $t-1$  to each other between frames and generating and storing a 1-bit bit map indicating whether the absolute value of the difference thereof is greater or not greater than a given parameter; and information compression circuit that compresses information of a pixel indicated, by the bit map stored in said bit map information storage circuit, as being greater in the absolute difference value between pixels  $t$  and  $t-1$  than said parameter; wherein

an image in each frame is divided into blocks in advance, and each of all blocks is approximated by (replaced with) a single plane defined by three data representing the magnitude of a pixel value in the block, the block-to-block gradient of

the pixel value in an x direction, and the block-to-block gradient of the pixel value in a y direction.

8. A system for compressing motion image information,  
5 including entropy coding circuit that reduces redundant information between frames by means of comparing spatially or temporally adjacent pixels to each other and generating differential information, said system comprises: bit map information storage circuit that compares pixels  $t$  and  
10 corresponding pixels  $t-1$  to each other between frames and generating and storing a 1-bit bit map indicating whether the absolute value of the difference thereof is greater or not greater than a given parameter; and information compression circuit which treats (deletes) information of a pixel  
15 indicated, by the bit map stored in said bit map information storage circuit, as being not greater in the absolute difference value between pixels  $t$  and  $t-1$  than said parameter, and which compresses information of the other pixels indicated as being greater in the absolute difference value than said  
20 parameter; wherein

an image in each frame is divided into blocks in advance, and each of all blocks is approximated by (replaced with) a single plane defined by three data representing the magnitude of a pixel value in the block, the block-to-block gradient of  
25 the pixel value in an x direction, and the block-to-block gradient of the pixel value in a y direction.

9. A system for compressing motion image information, according to Claim 7 or 8, wherein the 1-bit bit map information stored in said bit map information storage circuit is compressed by means of a binary image coding method such as a run length, modified READ (MR, MMR), modified Huffman (MH), or JBIG coding method.

10. A system for compressing motion image information, according to Claim 7 or 8, wherein said information compression circuit that compresses information of a pixel indicated as being greater in the absolute difference value than said parameter performs said information compression by means of an adaptive Huffman coding process including as many Huffman tables as the amount of predicted information.

11. A system for compressing motion image information, according to Claim 7 or 8, wherein said entropy coding circuit includes adaptive arithmetic coding circuit which has as many arithmetic tables as the amount of predicted information and which performs coding in accordance with an arithmetic table selected from said plurality of arithmetic tables.

12. A method of compressing image information, by means of comparing spatially or temporally adjacent pixels to each other and generating differential information so as to reduce

redundant information between frames, said method including the steps of: comparing corresponding pixels to each other in each block consisting of  $n \times m$  pixels ( $n$  and  $m$  are integers equal to or greater than 2) between frames and generating and storing a 1-bit bit map indicating whether the absolute value of the difference thereof is greater or not greater than a given parameter; and compressing information of a pixel indicated as being greater than said parameter, wherein

an image in each frame is divided into blocks in advance, and each of all blocks is approximated by (replaced with) a single plane defined by three data representing the magnitude of a pixel value in the block, the block-to-block gradient of the pixel value in an  $x$  direction, and the block-to-block gradient of the pixel value in a  $y$  direction.

13. A method of compressing motion image information, by means of comparing spatially or temporally adjacent pixels to each other and outputting differential information thereby reducing redundant information between frames, said method including the steps of: comparing corresponding pixels to each other in each block consisting of  $n \times m$  pixels ( $n$  and  $m$  are integers equal to or greater than 2) between frames and generating and storing a 1-bit bit map indicating whether the absolute value of the difference thereof is greater or not greater than a given parameter; treating (deleting) information of a pixel, indicated as being no greater in the absolute value

of the difference than said parameter, as a pixel having no difference between frames; and compressing information of a pixel indicated as being greater than said parameter; wherein

an image in each frame is divided into blocks in advance,  
5 and each of all blocks is approximated by (replaced with) a single plane defined by three data representing the magnitude of a pixel value in the block, the block-to-block gradient of the pixel value in an x direction, and the block-to-block gradient of the pixel value in a y direction.

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14. A method of compressing motion image information, according to Claim 12 or 13, wherein the 1-bit bit map information stored in said bit map is compressed by means of a binary image coding method such as a run length, modified READ (MR, MMR), modified Huffman (MH), or JBIG coding method.  
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15. A method of compressing motion image information, according to Claim 12 or 13, wherein information of a pixel indicated as being greater in the absolute difference value  
20 than said parameter is compressed by means of an adaptive Huffman coding process including as many Huffman tables as the amount of predicted information.

16. A system for compressing motion image information,  
25 including entropy coding circuit that reduces redundant information between frames by means of comparing spatially or

temporally adjacent pixels to each other and generating differential information, said system including: bit map information storage circuit that compares corresponding pixels to each other in each block consisting of  $n \times m$  pixels ( $n$  and  $m$  are integers equal to or greater than 2) between frames and generating and storing a 1-bit bit map indicating whether the absolute value of the difference thereof is greater or not greater than a given parameter; and information compression circuit that compresses information of a pixel indicated, by the bit map stored in said bit map information storage circuit, as being greater in the absolute difference value between pixels  $t$  and  $t-1$  than said parameter; wherein

an image in each frame is divided into blocks in advance, and each of all blocks is approximated by (replaced with) a single plane defined by three data representing the magnitude of a pixel value in the block, the block-to-block gradient of the pixel value in an  $x$  direction, and the block-to-block gradient of the pixel value in a  $y$  direction.

17. A system for compressing motion image information, including entropy coding circuit that reduces redundant information between frames by means of comparing spatially or temporally adjacent pixels to each other and generating differential information, said system including: bit map information storage circuit that compares corresponding pixels to each other in each block consisting of  $n \times m$  pixels ( $n$  and  $m$

are integers equal to or greater than 2) between frames and  
generating and storing a 1-bit bit map indicating whether the  
absolute value of the difference thereof is greater or not  
greater than a given parameter; and information compression  
5 circuit which treats (deletes) information of a pixel  
indicated, by the bit map stored in said bit map information  
storage circuit, as being not greater in the absolute  
difference value between pixels  $t$  and  $t-1$  than said parameter,  
and which compresses information of the other pixels indicated  
10 as being greater in the absolute difference value than said  
parameter; wherein

an image in each frame is divided into blocks in advance,  
and each of all blocks is approximated by (replaced with) a  
single plane defined by three data representing the magnitude  
15 of a pixel value in the block, the block-to-block gradient of  
the pixel value in an  $x$  direction, and the block-to-block  
gradient of the pixel value in a  $y$  direction.

18. A system for compressing motion image information,  
20 according to Claim 16 or 17, wherein said 1-bit bit map  
information stored in the bit map information storage circuit  
is information indicating the difference presence/absence for  $n$   
 $\times m$  blocks ( $n$  and  $m$  are integers equal to or greater than 2) in  
a frame and is compressed by means of a binary image coding  
25 method such as a run length, modified READ (MR, MMR), modified  
Huffman (MH), or JBIG coding method.

19. A system for compressing motion image information,  
according to Claim 16 or 17, wherein said information  
compression circuit that compresses information of a pixel  
5 indicated as being greater in the absolute difference value  
than said parameter performs said information compression by  
means of an adaptive Huffman coding process including as many  
Huffman tables as the amount of predicted information.

20. A system for compressing motion image information,  
according to Claim 16 or 17, wherein said entropy coding  
circuit includes adaptive arithmetic coding circuit which has  
as many arithmetic tables as the amount of predicted  
information and which performs coding in accordance with an  
5 arithmetic table selected from said plurality of arithmetic  
tables.